

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1(currently amended): ~~An economical~~ A process for recovery of low-sodium salt~~[[,]] preparing free flowing low sodium salt or optionally preparing iodized low sodium salt and with enhanced recovery of low sodium salt from bittern, the said process comprising steps of:~~

- a) treating the bittern with calcium chloride solution to produce insoluble calcium sulfate,
- b) separating calcium sulfate of step (a) to obtain desulphated bittern,
- c) evaporating the desulphated bittern of step (b) in solar pans until a density ranging from 30 to 33° Be' is reached, with deposition of excess salt in pans,
- d) removing the ~~excess~~ salt deposit of step (c) to obtain concentrated desuphated bittern,
- e) feeding the concentrated desulphated bittern of step (d) to ~~[[a]] carnallite pans and continuing the solar evaporation [[till]]~~ to solid deposition is initiated,

- f) separating the solid mixture of step (e) constituting a mixture of sodium chloride and carnallite ( $\text{KCl} \cdot \text{MgCl}_2 \cdot 6\text{H}_2\text{O}$ ) from carnallite pans for obtaining liquid end bittern,
- g) treating with stirring the solid mixture of step (f) with water ~~[[over]]~~ for a period of 20-60 minutes to produce ~~desired~~ low sodium salt composition and a liquid bittern in equilibrium with ~~this solid low sodium salt~~ containing mainly magnesium chloride with dissolved sodium chloride and potassium chloride,
- h) separating the solid product from the liquid bittern of step (g) ~~from the liquid~~ by centrifugation, and obtaining supernatant liquor,
- i) drying the solid product of step (h) at a temperature ranging from  $90^\circ\text{-}130^\circ\text{C}$  to obtain low sodium salt~~[[.]]~~,
- j) recycling the liquid bittern of step (g) in carnallite pans for recovery of sodium and potassium salt in the presence of an additive, and
- k) treating the dried product of step (i) with an alkali salt and an additive to obtain an iodised low sodium salt.

Claim 2 (cancelled).

Claim 3 (currently amended): ~~[[The]]~~ A process as claimed in claim 1, wherein treating low-sodium salt of step (i) with an alkali iodate salt to obtain iodized low sodium salt.

Claim 4 (currently amended): ~~[[The]]~~ A process as claimed in claim 1, wherein recovery of low-sodium salt ~~can be~~ is enhanced by recycling the bittern of step ~~[[h]]~~ (g) in carnallite pans.

Claim 5 (currently amended): A process as claimed in claim 1, wherein the low sodium salt ~~can be~~ is produced directly from 29-30°Be' bittern of step (a) containing sodium chloride, potassium chloride and  $Mg^{2+}$ .

Claim 6 (currently amended): A process as claimed in claim 1, wherein the source for bittern ~~can be from~~ are seawater or sub soil origin and ~~preferably~~ bittern having a low sulphate content.

Claim 7 (original): A process as claimed in claim 1, wherein in step (a) the concentration of calcium chloride solution used is in the range of 80-450 g/liter.

Claim 8 (currently amended): A process as claimed in claim 1, wherein in step (a) the source of calcium chloride is from distiller by product waste of soda ash industry.

Claim 9 (original): A process as claimed in claim 1, wherein in step (b) the desulphated bittern has a concentration of sodium chloride 90-135 g/liter and potassium chloride 20-25 g/liter.

Claim 10 (original): A process as claimed in claim 1, wherein in step (c) the evaporation of desulphated bittern in solar pans is performed to obtain concentrated desulphated bittern of density ranging from 30-33°Be'.

Claim 11 (currently amended): A process as claimed in claim 1, wherein in step (c) the potassium chloride and sodium chloride is ~~can be~~ adjusted in the range of 20% KCl to 70% KCl by varying between 30 to 33°Be' the density of desulphated bittern.

Claim 12 (original): A process as claimed in claim 1, wherein in step (e) the evaporation of concentrated desulphated bittern is performed to achieve a density of 35.5°Be'.

Claim 13 (original): A process as claimed in claim 1, wherein in step (g) the ratio of water to the solid mixture ranges from 0.30-0.50 to 1.00.

Claim 14 (currently amended): A process as claimed in claim 1, wherein ~~[[in]]~~ steps ~~(a to h)~~ (a) to (h) are carried out at an ambient temperature and step (i) is carried out at a temperature range of 90°-130°C.

Claim 15 (original): A process as claimed in claim 1, wherein in step (j) the additive used is light magnesium carbonate at a concentration range of 0.01 - 0.05% w/w with respect to low-sodium salt.

Claim 16 (original): A process as claimed in claim 1, wherein in step (k) the alkali salt used is potassium iodate at a concentration range of 10-50 ppm with respect to low sodium salt.

Claim 17 (currently amended): A process as claimed in claim 1, wherein ~~in step (h) the supernatant liquor of step (h) remaining after decomposing of crude carnallite of step (f) can be~~ is recycled in carnallite ~~[[pan]]~~ pans to increase yield of the process to 87-90% based on potassium content of the bittern used.

Claim 18 (currently amended): A process as claimed in claim 1, wherein in step (k), the low sodium salt having ~~each nutrient~~ calcium and magnesium ranging in the amount 0.01 to 2.0% is drawn from the bittern used and not to be externally added.

Claim 19 (currently amended): A process as claimed in claim 1, wherein the ~~isolated~~ yield of low sodium salt from bittern is in the range of 0.03 kg/litre to 0.07 kg/litre.

Appl. No.: 10/062,583  
Amdt. dated April 20, 2004  
Reply to Office Action of November 20, 2003

Claim 20 (currently amended): A process as claimed in claim 1, where the isolated yield of low sodium salt from bittern after step (j) ~~adopting recycling process~~ is in the range of .04 kg/lit to 0.09 kg/lit.